

A Report to the Montana Legislature

Performance Audit

The Alternative Energy Revolving Loan Program

Department of Environmental Quality

November 2012

Legislative Audit Division

12P-08

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PERFORMANCE AUDITS

Performance audits conducted by the Legislative Audit Division are designed to assess state government operations. From the audit work, a determination is made as to whether agencies and programs are accomplishing their purposes, and whether they can do so with greater efficiency and economy.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Members of the performance audit staff hold degrees in disciplines appropriate to the audit process.

Performance audits are performed at the request of the Legislative Audit Committee which is a bicameral and bipartisan standing committee of the Montana Legislature. The committee consists of six members of the Senate and six members of the House of Representatives.

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November 2012

The Legislative Audit Committee of the Montana State Legislature:

This is our performance audit of the Alternative Energy Revolving Loan Program. This report includes recommendations for the program, including complying with program requirements for environmental assessments of potential projects, verifying project completion, and collecting information on system performance. A written response from the Department of Environmental Quality is included at the end of the report.

We wish to express our appreciation to department officials and staff for their cooperation and assistance throughout the audit.

Respectfully submitted,

/s/ Tori Hunthausen

Tori Hunthausen, CPA Legislative Auditor

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Program

Montana Legislative Audit Division



Performance Audit The Alternative Energy Revolving Loan Program

Department of Environmental Quality

November 2012

12P-08

REPORT SUMMARY

The Department of Environmental Quality (department) should comply with existing administrative rules and program policy to ensure that the over \$5 million of state and federal funds loaned out by the program results in the continued development of alternative energy in Montana.

Context

The Alternative Energy Revolving Loan Program (AERLP) was established by the Montana Legislature in 2001 to provide a financing option to Montana homeowners, small businesses, nonprofits and government entities to install alternative energy systems. Alternative energy systems can take many different forms, including energy derived from other sources such as solar, wind, geothermal, and biomass. The program has historically been funded by air quality violation penalties collected by the department for environmental enforcement activities. However, department also directed approximately \$1.2 million in federal funds to supplement the program from the department's stimulus funding under the 2009 American Recovery and Reinvestment Act. These state and federal funds jointly comprise a revolving loan fund for the program. Since inception of the program, in 2001, the department has loaned out over \$5 million, approving 259 loans through the program.

During our review, we determined that the department should improve program compliance for the program. Audit work identified the need for the department to complete environmental reviews prior to executing a service agreement and releasing program funds. In addition, we noted that the department does not follow administrative rules or program policy regarding project verification to ensure projects are built and funds used for their intended purposes. We also determined the department does not collect information on system performance as required by administrative rules and program policy. During our review, we determined that department staff recognized these instances of noncompliance and were taking steps to actively address our findings.

Results

Audit recommendations address the need for the department to strengthen compliance for the program. Recommendations include:

- Completing an environmental review prior to executing a service agreement;
- Verifying project completion, including a final accounting of loan expenditures, photo verification, and site visits; and
- Collecting information from loan recipients on an annual basis regarding system performance and reliability.

Recommendation Concurrence				
Concur	3			
Partially Concur	0			
Do Not Concur	0			

Source: Agency audit response included in final report.

Chapter I – Introduction

Introduction

The term alternative energy generally refers to the act of obtaining energy from a source other than burning fossil fuels. In this regard, alternative energy systems can take many different forms, including energy derived from other sources such as solar, wind, geothermal, and biomass. State and federal governments have a long history of investing in alternative energy development as both a means to encourage economic development and identify new sources of energy. In Montana, the Alternative Energy Revolving Loan Program (AERLP) supports the development of alternative energy by providing financing to install alternative energy systems. The program is located with the Department of Environmental Quality's (department) Planning, Prevention, and Assistance Division. A performance audit of the program was prioritized based on an interest in renewable energy incentives on the part of the Legislative Audit Committee.

Audit Objective, Scope, and Methodologies

We developed the following objective for examining the AERLP:

Does the department comply with applicable laws, regulations and other requirements for the program?

While the program has been operating for nearly a decade, we determined there were questions regarding whether the department has fully complied with all program laws and rules. As part of program activities, the department reviews applications internally to assess the technical merits of a potential project. If an applicant passes this technical review, the application is forwarded to a financial contractor who reviews the financial viability of the application against underwriting and credit analysis criteria. This financial review represents a program strength and consequently was excluded from the scope of our examination. However, during the course of our assessment work, we determined there were risks associated with how the department conducts the environmental reviews for the program, verifies project completion, and collects information on system performance. To accomplish our objective, we completed the following methodologies:

- Reviewed applicable state laws, administrative rules, and program policies,
- Reviewed proposed changes in administrative rules for the program,
- Obtained and reviewed information used by the department to manage program activities,
- Reviewed hardcopy files for the 62 applications received by the department for the program in fiscal year 2011,

- Obtained and reviewed annual surveys of program participants conducted by the department to collect information on systems financed by the program,
- Obtained and reviewed annual outcome reports prepared by the department to document program activities,
- Interviewed department staff responsible for the program,
- Interviewed program stakeholders, including system contractors, and
- Obtained and reviewed information for similar programs in other states.

The Alternative Energy Revolving Loan Program

The AERLP was established by the 57th Montana Legislature in 2001. Sections 75-25-101 through 75-25-103, MCA, outline the program's roles and responsibilities. Additional program requirements are outlined in administrative rules. There are currently .90 full-time equivalent at the department, which work on AERLP activities. In fiscal year 2012, the budget for the program was approximately \$92,000. The purpose of the program is to provide a financing option to Montana homeowners, small businesses, nonprofits, and government entities to install alternative energy systems. Energy from these systems is intended for use by the user; however, net-metering is allowed for systems that generate electricity. Under net-metering, a system owner can receive a credit from a utility for at least a portion of the electricity they generate. Energy conservation measures installed in conjunction with an alternative energy project may also be funded through the program. Examples of alternative energy systems financed by the program include systems that generate energy through solar, wind, geothermal, and biomass sources. Per state law, the department may set the interest rate for the program at an amount that will cover its administrative costs but the rate may not be less than 1 percent a year. The interest rate for the program for 2012 is 3.75 percent.

On an annual basis, state law requires the department to measure the success of the program, including:

- Maintaining a loan loss ratio under 5 percent.
- Reporting on the types of systems which provide the best overall results for residences and small businesses.
- Determining the amount of energy produced by participation in the program.

These various outcome measures are reported via an annual outcomes report. In fiscal year 2011, the loan loss ratio for the program was 1.5 percent. The department assessed which systems provide the best overall results, and determined the energy production via estimates based on standard engineering calculations and assumptions, such as system efficiency, wind production, or average solar radiation.

AERLP Funding and Loan Activity

The program has historically been funded by air quality violation penalties collected by the department for environmental enforcement activities. As of January 31, 2012, approximately \$3.3 million in air penalties have been received by the program. However, the department also directed approximately \$1.2 million in federal funds to supplement the program from the department's stimulus funding under the 2009 American Recovery and Reinvestment Act (ARRA). These state and federal funds jointly comprise a revolving loan fund for the program. This type of fund gets its name from the revolving aspect of loan repayment, where a central fund is replenished as individual projects pay back their loans, creating the opportunity to issue other loans to new projects. Per state law, the amount of a loan may not exceed \$40,000 and the loan must be repaid within ten years. Loans funded with ARRA funding were allowed up to \$100,000 and had to be repaid in fifteen years. However, this was a 2009 amendment to state law which expired on June 30, 2011. Since its inception, the program has loaned over \$5 million in state and federal funds. Table 1 represents loan activity for the program from fiscal year 2008 through 2012, with both funding from air penalty violations and ARRA combined. As illustrated by the table, loan volume activity increased in fiscal year 2010 due to the addition of ARRA funds.

Table 1

AERLP Loan Activity
Fiscal Year 2008 Through 2012

Fiscal Year	2008	2009	2010	2011	2012
Number of Approved Loans	26	27	79	41	27
Total Amount of Loans Financed	\$724,197	\$853,827	\$1,817,970	\$935,558	\$524,348
FY End Cash Balance	\$1,310,439	\$1,288,896	\$500,146	\$826,324	\$1,450,622

Source: Compiled by the Legislative Audit Division from department records.

AERLP Application, Review, and Approval

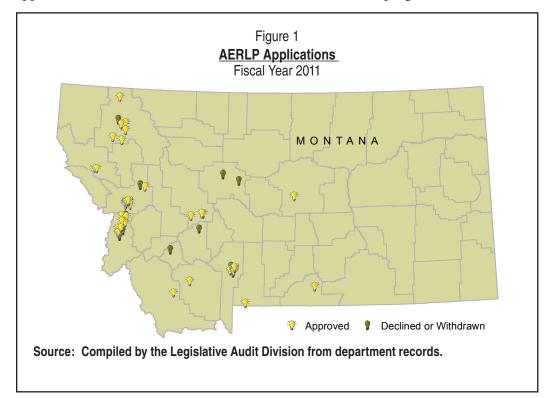
When the department receives an application, staff performs an in-house review of the proposed project's technical merits. Administrative rules provide broad criteria for acceptable technologies, including whether the equipment is proven reliable and is commercially available. The department reviews the application packet, including the project proposal, technical specifications, and product brochures to ensure the project satisfies the criteria for an alternative energy system. This technical review also includes an environmental review to assess any impact the project may have to the quality of the human environment. If the project passes the technical review, the department sends the application to a financial contractor with whom the department has contracted

to provide loan serving for the program. Per state law and administrative rules, the department may have an outside agency or organization process loan applications. In fiscal year 2012, the department spent approximately \$50,000 for loan servicing for the program. This contractor reviews an applicant's financial merit according to established underwriting and credit analysis criteria, and sends approved applications back to the department for the final approval. While the department retains the final authority to issue or deny a loan to an applicant who passes the financial review, in practice, the department has historically approved loans for applicants approved by the financial contractor. This financial contractor services all of the outstanding loans, including collecting the required payments from the borrowers. The financial contractor then remits the collected funds to the department on a quarterly basis. Audit assessment work reviewed department controls for the financial contractor. We determined this represented a low risk for the program.

AERLP System Installations

As of January 31, 2012, the department has approved 259 loans under the program, with an average of 43 applications received annually by the program since its inception. These loans represent a variety of alternative energy systems, including solar, wind, and geothermal.

The following map illustrates the 62 applications received by the department in fiscal year 2011 which we reviewed over the course of our audit work, including applications which were approved, denied, or withdrawn. Denied or withdrawn generally represents applications which did not meet the financial criteria of the program.



Report Contents

The remainder of this report includes one chapter detailing our findings, conclusions, and recommendations in the following area:

• Chapter II present information on how the department should comply with existing administrative rules and program policies for the program.

Chapter II – Improving Program Compliance

Introduction

As part of our audit, we assessed whether the Department of Environmental Quality (department) complies with applicable laws, regulations, and other requirements for the program. Over the course of our audit work, we concluded that the department has established policies and procedures to guide program activities; however, the department does not consistently comply with administrative rules and policies for the program. During our audit work, we determined the department should comply with administrative rules and program policies related to:

- Performing environmental reviews.
- Verifying project completion.
- Collecting information on system performance.

This chapter discusses our findings, conclusions, and recommendations relating to compliance with administrative rules and policies for the program.

The Department Issues Program Loans Prior to Environmental Review

As part of the department's process to review program applications, the department is required by administrative rules to conduct an environmental review prior to issuing a loan. Per 17.85.112 (1) ARM, prior to executing a service agreement, the department shall review each application to determine if the department's approval of a loan for the project may result in significant effects to the quality of the human environment. Of the 62 applications received by the department in fiscal year 2011, 44 were approved. In our review of project files, we noted that 43 percent of approved applications contained a request to release loan funds that predated the environmental review and final project approval. While we noted noncompliance regarding the timing of the environmental review, the reviews were generally completed. In only one circumstance was the department unable to provide documentation that an environmental review occurred for an approved project.

Environmental Reviews Protect Human Health

The purpose of an environmental review is to determine whether a program project has an impact to human health. Environmental reviews are conducted by the department in accordance with the Montana Environmental Policy Act (MEPA). According to program policy, this review is to be completed by the department as part of the review and approval of a program project, prior to releasing funds for the project. While these environmental reviews conducted on the part of the department have never identified

an adverse impact to human health which would result in the denial of an AERLP project, the review ensures that human health is protected and not adversely affected by the installation of an alternative energy system. However, by entering into a service agreement and issuing loan funds prior to the final approval of a project—including an environmental review—the department has not complied with program requirements.

Increased Program Volume and Lack of Expertise Impacted the Department's Ability to Complete Environmental Reviews in a Timely Manner

According to department staff, due to the influx of funds from the 2009 American Recovery and Reinvestment Act, there was an increase in the volume of program applications which impeded their ability to complete environmental reviews prior to final approval and release of loan funds. These funds enabled the department to hire an additional staff person for the program, with specific expertise in completing environmental reviews. Once the individual in this temporary position left, these program duties were absorbed by remaining staff. Department staff indicate the program was faced with a lack of expertise on how to complete environmental reviews for the program. Department staff also indicate the requirement in administrative rules for the environmental review was adopted prior to the approval of the first loan in 2003. As a result, this requirement does not align very well with program need. Staff report they are pursuing changes to existing administrative rules.

Department staff emphasize that the systems funded by the program have little potential impact to the environment, due to the small scale and types of systems. In addition, staff indicate an environmental review conducted by the program has never identified a reason not to move forward with a program project. Nevertheless, staff report they are currently developing a categorical exclusion for the program, where only systems which meet a defined threshold or trigger would be subject to an environmental review under MEPA. The categorical exclusion would mirror similar exclusions defined under the federal National Environmental Policy Act. For example, only geothermal systems which exceed a certain size would be subject to a review. Consequently, there would be fewer environmental reviews required of the program. However, there would still be the requirement to perform an environmental review under certain circumstances. According to department staff, the program recently received training to develop the skills needed to perform environmental reviews. As an environmental regulatory agency, the department has existing staff in other programs with this knowledge who provided the training. This is a positive step toward complying with administrative rules regarding environmental reviews for the program and ensuring program systems do not adversely affect human health or the environment.

RECOMMENDATION #1

We recommend the Department of Environmental Quality comply with administrative rules for the Alternative Energy Revolving Loan Program by completing an environmental review prior to executing a service agreement for loans issued by the program.

Administrative Rules and Department Policy Require Project Verification

Administrative rules and department policy outline a number of ways in which the department must verify the completion of program projects. Per 17.85.115, ARM, loan recipients shall submit to the department an accounting of loan expenditures upon the completion of construction or installation of a program project. In addition, program policy indicates the department will ensure AERLP funds are used for their intended purpose. Program policy outlines two specific ways in which the department verifies program systems have been installed as specified:

- Photos of each project will be required to verify the renewable energy system was installed as agreed to in the loan documents. Photos must be dated.
- The department will visit at least five projects annually. A report of each site visit will be written and filed, and will include the date of site visit and description of installed measures as observed during the site visit, anecdotal information about system performance and occupant satisfaction, and verification of specific programmatic requirements.

The Department Does Not Verify Program Project Completion

In our review of the 44 approved project files, we noted that the department does not routinely verify project completion as outlined in administrative rules and program policy. The following bullets summarize examples of limited project verification activities completed by the department:

- None of the project files we reviewed contained an accounting of loan expenditures upon the completion of construction or installation of a program project as required by administrative rules.
- Forty-five percent of projects files did not contain photo documentation that the renewable energy system was installed as agreed.
- Two project files included some sort of documentation regarding a site visit. However, the information outlined in program policy regarding the contents of a report to document a site visit was incomplete.

The Department is Unable to Demonstrate AERLP Funds Are Used as Intended

In fiscal year 2011, the department approved loans totaling nearly \$1 million for the program. In addition to not complying with administrative rules and department policy, without verification of project completion, the department is unable to demonstrate that projects are being completed as planned and loan funds are being expended for their intended purposes. An accounting of loan expenditures would ensure borrowers are spending public funds as intended. And photo documentation and site visits are used to ensure projects are built as planned and described.

The Department Has Not Prioritized Project Verification

Department staff indicate they have not historically prioritized the completion of program verification requirements. As for an accounting of loan expenditures upon the completion of construction or installation of a program project outlined in administrative rules, department staff indicate that they are more concerned with ensuring a project proposal receives due diligence in the review and approval process rather than focusing on project expenditures. They also cite limited staff resources to follow up with borrowers regarding photo documentation. However, state law indicates the department may charge administrative costs to the program's account up to 10 percent of the total loans or \$23,000 a year, whichever is greater. Overall, staff stress they are concerned with the larger picture of the program, in terms of focusing their efforts on project approval. They indicate resources spent on verification reduce the amount of funds available for loans by the program. To reduce operating costs, site visits are combined with other travel rather than conducted independently which can delay verification. Department staff also report they generally do not track or document site visits. During audit work, staff indicated verification is an area for improvement. Department staff also indicate they are pursuing changes to administrative rules to clarify accounting verification requirements.

While department staff agree it would be a good idea to standardize how they document site visits, they have not emphasized the verification of project completion. They indicate they have been discussing how to be more proactive regarding project verification. They are considering developing a desk reference to outline what information needs to be documented in project files. They are also currently considering changing program practices to select projects for site visits based on borrower response to requests for photo verification. For example, borrowers who do not provide photo documentation will be selected for site visits. These are positive steps for the program to place additional emphasis on project verification to ensure that projects are being completed as planned and loan funds are being expended for their intended purposes.

RECOMMENDATION #2

We recommend the Department of Environmental Quality document compliance with administrative rules and program policy for project verification for the Alternative Energy Revolving Loan Program, including:

- A. An accounting of loan expenditures upon the completion of construction or installation of a program project;
- B. Photos to verify that a renewable energy system was installed as agreed to in the loan documents; and
- C. Site visits as outlined in program policy which document the date of site visit and description of installed measures, anecdotal information about system performance and occupant satisfaction, and verification of specific programmatic requirements.

The Department Should Collect Information on System Performance

Presently, the department does not collect information from borrowers on an annual basis as required by administrative rules and program policy. Per 17.85.115 (3), ARM, loan recipients shall submit annual reports to the department during the term of their loan on a form provided by the department. Reports must estimate the amount of energy produced by the installed system during the year, provide information about system and component reliability, and provide all financial information required by the department's financial contractor. Department policy indicates that the department will gather from borrowers in an annual survey information on the status of installed system components, estimated annual energy production, estimated value of energy produced, and maintenance or repairs to system.

The Department Has Not Collected Performance Information From Borrowers

Although reporting requirements are defined in administrative rules, program policy, and correspondence between the department and loan recipients, department staff have not collected information from borrowers for a number of reasons. Department staff indicate they have only surveyed borrowers a couple of times in the history of the program, with the most recent survey conducted in 2008. According to department staff, it had been difficult to get meaningful information from loan recipients. The quality of information received from recipients varies widely. These loan recipients—typically residential homeowners—often ignore requests for information and do not respond to department surveys. In 2008, only 41 percent of loan recipients responded

to the department's survey and provided information about system performance. Department staff indicated that there is no way to enforce or require borrowers to respond to department requests for information. However, without collecting this information from loan recipients, the department relies on engineering estimates to measure the success of the program regarding the performance of alternative energy systems funded by the program. According to department staff, they performed informal comparisons of actual and estimated system energy production in the past. This work confirmed for them the accuracy of engineering estimates. Department staff indicate that this is an area of administrative rules which does not align with the reality of the program. Consequently, department staff are currently in the process of drafting amendments to existing administrative rules regarding this reporting requirement.

Other States Offer Alternatives to Collecting Project Information From Borrowers

During our audit, we also reviewed similar programs in other states. As with Montana, other states also struggle with collecting information from loan recipients. However, we noted that other states have established alternative methods for collecting system performance information from borrowers. For example, in Oregon, the Small Scale Local Energy Loan Program funds renewable energy resource development for individuals, businesses, schools, and municipalities. While Oregon's program does not collect performance information directly from borrowers, they have established a process where borrowers sign a utility information release. This release authorizes the program to obtain information regarding a borrower's energy production directly from utilities while the loan is outstanding. This may represent an alternative in Montana to enable the department to more easily collect information on the performance of the program.

The Department Should Measure Program Success on an Ongoing Basis

As department staff pursue amendments to reporting requirements regarding system performance in existing administrative rules, it will be important for the department to continue to measure the effectiveness of the program. While department staff may not believe that existing administrative rules align well with program circumstances, including collecting information from loan recipients, the department still has a statutory obligation to measure the success of the program on an ongoing basis to ensure the program is achieving intended results and systems are operating as expected. As the department amends the current reporting requirements in administrative rules, we encourage the department to consider alternative ways to measure program outcomes on an ongoing basis.

RECOMMENDATION #3

We recommend the Department of Environmental Quality:

- A. Comply with administrative rules and program policy and collect information from loan recipients on an annual basis regarding system performance and reliability, or
- B. Establish an alternative method to measure the effectiveness of the program on an ongoing basis to ensure the program is achieving intended results and approved systems are operating as expected.

Department of Environmental Quality

Department Response

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November 28, 2012

Tori Hunthausen, CPA Legislative Auditor Legislative Audit Division State Capitol Helena, MT 59620

Alternative Energy Revolving Loan Program Audit – Preliminary Response RE:

Dear Ms. Hunthausen:

Thank you for the audit on the Alternative Energy Revolving Loan program (AERLP) and the opportunity to respond. This letter serves as the official response to the audit.

I would like to first compliment the professionalism of the audit team. The audit process was thorough and fair, and the communication from the audit team to the Department of Environmental Quality (DEQ) was very good.

The audit points out areas for DEQ to address in its rules and policies. DEQ concurs with all findings.

This response summarizes our actions and plans resulting from the audit recommendations. We will also be able to address these at the December Audit Committee meeting. This audit was conducted during a point in time when the agency had identified a need to update rules and was just beginning the process to do so. In some cases we had already changed our practices to better manage the program and had done so ahead of changing our rules. In other cases, we have been able to respond quickly to recommendations because we are already in the process of making changes. Progress has been made on all of the recommendations made in the audit.

Recommendation 1

The Department concurs with the recommendation that it needs to complete environmental reviews prior to executing a servicing agreement with the borrower and has taken several steps to address this recommendation.

Part of the reason that reviews were late was because of the loss of staff that completed the reviews during the period audited. DEQ has since trained additional staff to complete the reviews, who revisited and completed the one missing review. In addition, DEQ is working on a process that will quickly identify those projects that have a potential for environmental impact to better focus reviews on those projects and allow others to proceed through the approval process. In consultation with DEQ MEPA staff, program staff have drafted a categorical exclusion that will cover most loans. This categorical exclusion is in the final stages of review. For comparison, of the 44 loans completed in fiscal year 2011, all but 6 of the loans would have Ms. Hunthausen November 28, 2012 Page 2 of 3

been approved under the categorical exclusions. The categorical exclusion will be in place by early 2013.

DEQ agrees with the audit assessment that no environmental harm has occurred because of the lateness of the reviews, and there is very little risk of environmental harm from loans made by the program. However, DEQ believes that environmental reviews are important and that it is necessary to complete them in a timely manner. For loans that still need an environmental review, they will be completed prior to executing a loan servicing agreement.

Recommendation 2

DEQ concurs with the recommendation that it be in compliance with administrative rules and program policy for project verification for the Alternative Energy Revolving Loan Program.

- A. Ensuring that program funds are being used for the intended purpose of funding renewable energy projects is of critical importance to DEQ. Because this is a loan program, funds leave DEQ before a project is complete. DEQ therefore takes action to ensure that the funds will be used appropriately before a check is written to the borrower by requiring thorough information on project costs at the time of application. A complete bid including both equipment and installation costs is received and reviewed as part of the loan approval process. A loan is then made based on those bids. Verification that the project is complete will ensure that the funds were used for the items included in the bids. Verification is an area that has been weak and will be improved. DEQ will outline in its policies its process to more completely gather comprehensive information up front and will better verify completion as outlined in B and C below.
- B. DEQ agrees that using photos to verify the installation of renewable energy systems is necessary. DEQ also agrees that at the time of the audit only about half of the loan files had photos verifying completion. Since the audit, the program has contacted loan recipients and received photos of all but one of the projects. The program has also updated its letter of commitment that is issued by the financial contractor and signed by the borrower to clearly communicate the requirement for photo documentation. This is in addition to the section on the loan application notifying the loan applicant that photos are required.
- C. DEQ concurs that it needs to conform to program policy regarding site visits. DEQ agrees that not all site visits were documented and that documentation was weak on site visits. Since the audit, the program has developed a site visit form and is currently using this form. It includes a space for the anecdotal information suggested by the audit. DEQ strives for efficiency in operating the AERLP, and arranges for site visits when travelling for other purposes to keep operating costs of the program low.

Recommendation 3

DEQ concurs that it needs to comply with administrative rules to collect information on system performance and has established an alternative method for collecting information as outlined in

Ms. Hunthausen November 28, 2012 Page 3 of 3

B. of recommendation number three. This is an area where DEQ had identified that the process outlined in rules was not providing the best information, and had changed its process to get better information, but needs to update its rules on how it collects information on system performance.

- A. The process outlined in the current rules was to collect information from borrowers through surveys. This proved difficult to implement consistently because borrowers often did not respond to surveys and when they did respond the information provided was from a consumer perspective with opinions on performance, so information provided to DEQ was an estimate based on opinions. There is also a difference in the type of information that can be collected based on the type of system. For example, solar photovoltaic systems and wind turbines generate electricity that can be evaluated through a production model using the capacity of the system and estimated use based on solar or wind data by location. While it would be interesting to have actual data on generation, most if not all consumers did not receive this information from their utilities until October of 2012. Solar thermal, solar hot water, and geothermal ground source heat pumps provide heat energy rather than electricity and must be evaluated differently.
- B. DEQ has an energy engineering staff with expertise in modeling system performance. The AERLP program used this staff to develop engineering methodologies and calculations that are relevant for the types of systems and locations in Montana. These calculations have been used for the past two years and reported in the annual outcomes reports for the program. DEQ concludes this is the best approach to gather useful information on system performance consistently and accurately in a cost effective manner. DEQ is in the process of amending its rules to describe the new engineering process to asses information on system performance and expects to complete that process in December 2012 or January 2013.

Thank you for the opportunity to respond to the AERLP audit.

Sincerely,

Tom Livers
Deputy Director

Tom livers